ABSTRACT OF THE DISCLOSURE

The invention discloses an improvement in the photolithographic patterning process of a photoresist layer in the manufacture of semiconductor devices in which occurrence of defects in the patterned resist layer can be greatly suppressed resulting in increased reliability of the semiconductor devices and productivity thereof. The improvement can be accomplished by using a chemical-amplification positive-working photoresist composition which exhibits a rate of film thickness reduction in the range from 0.09 to 1.0 nm/second when the photoresist layer before light-exposure is kept in a 2.38% aqueous solution of tetramethylammonium hydroxide at 23 °C to dissolve away the resist layer.